SM Solar® GEL

SM12-55HT 12V55Ah GEL

GEL series has a long service life ,Use of high purity lead and gel electrolytes.Suitable for solar & wind system, CATV, marine,deep discharge UPS, and telecommunication, etc. As with all SM batteries, all are rechargeable,highly efficient,leak proof and maintenance free

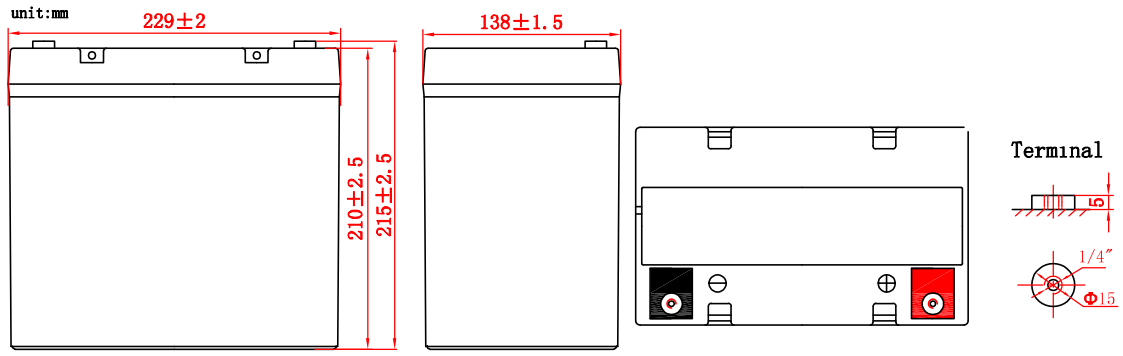
▶ Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	55Ah @ 10hr-rate to 1.8V per cell @25°C (77°F)
Weight	Approx. 16.5 kg
Maximum Discharge Current	550A(5sec)
Internal Resistance	Approx. 8 mΩ
Operating Temperature Range	Discharge: -15°C~50°C(5°F~122°F) Charge: -15°C~40°C(5°F~104°F) Storage:-15°C~40°C(5°F~104°F)
Nominal Operating Temperature Range	25°C±3°C (77°F±5°F)
Float Charging Voltage	13.5 to 13.8 VDC/unit Average at 25°C (77°F)
Recommended Maximum Charging Current Limit	16.5A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C (77°F)
Self Discharge	SM Batteries can be stored for more than 6 months at 25°C(77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.
Terminal	Thread lead alloy recessed terminal to accept 1/4" bolt
Container Material	ABS(UL 94-HB) & Flammability resistance of (UL 94-V0) can be available upon request.

▶ Dimensions :

Unit: mm

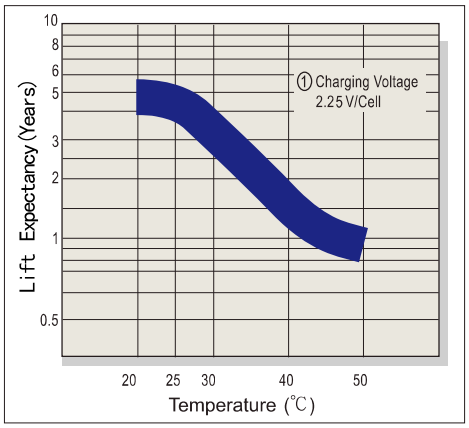
Overall Height (H)	Container height (h)	Length (L)	Width (W)
215±2.5	210±2.5	229±2	138±1.5



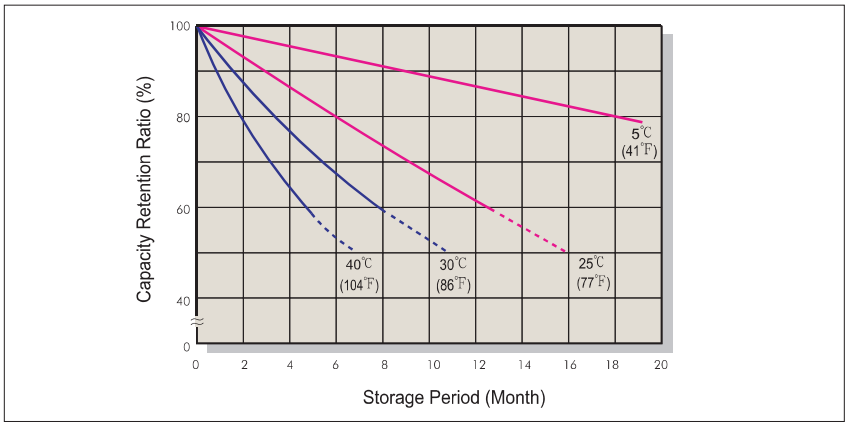
Constant Current Discharge Characteristics Unit:A (25°C, 77°F)								
F.V/Time	10min	15min	30min	1h	3h	5h	10h	20h
1.60V	126.4	95.2	58.7	35.2	14.5	9.9	5.64	3.01
1.67V	122.8	92.8	57.7	34.7	14.4	9.8	5.63	3.00
1.7V	120.6	91.1	56.9	34.3	14.3	9.7	5.62	2.99
1.75V	113.7	86.1	54.9	33.2	14.0	9.6	5.59	2.96
1.8V	103.9	80.2	52.4	31.8	13.5	9.3	5.50	2.92
1.85V	90.1	70.5	49.0	29.5	12.4	8.7	5.29	2.82

Constant Power Discharge Characteristics Unit:W (25°C, 77°F)								
F.V/Time	10min	15min	30min	1h	3h	5h	10h	20h
1.60V	204.9	165.1	111.2	66.9	28.6	19.2	11.10	5.97
1.67V	194.3	156.5	109.3	66.1	28.3	19.2	11.06	5.95
1.7V	186.1	150.1	108.1	65.6	28.1	19.1	11.03	5.94
1.75V	168.5	136.3	104.7	64.2	27.6	18.9	10.97	5.89
1.8V	147.6	120.2	99.9	62.0	26.6	18.4	10.82	5.80
1.85V	120.8	99.5	93.5	58.6	24.7	17.3	10.46	5.61

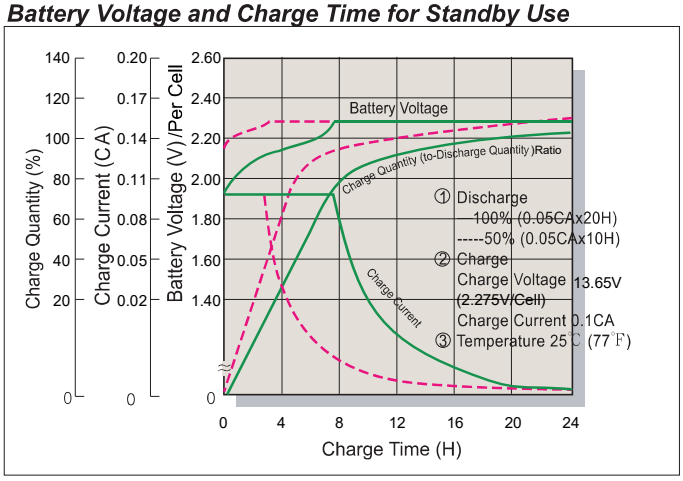
Trickle(or Float)Design Life



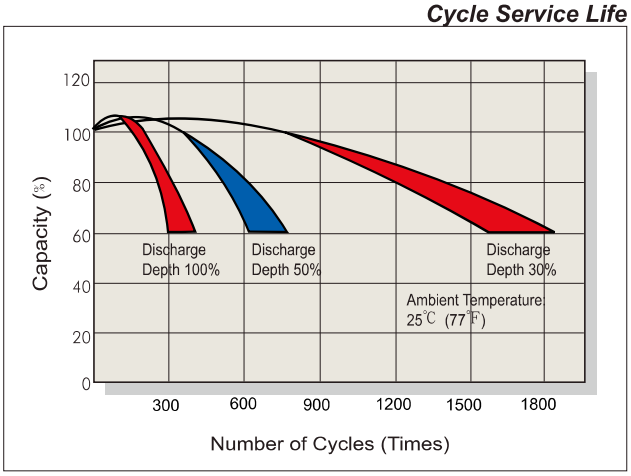
Capacity Retention Characteristic



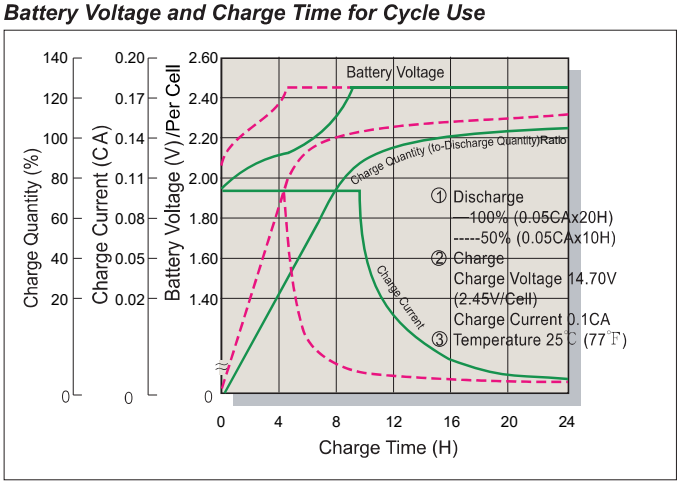
Battery Voltage and Charge Time for Standby Use



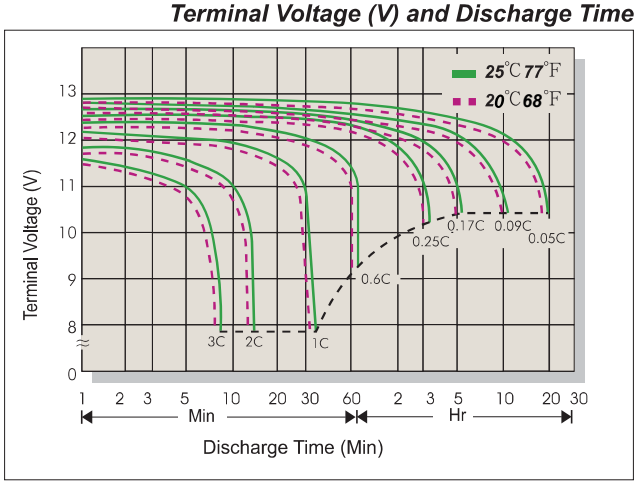
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time



Charging Procedures

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25℃(77℉)	2.45	2.40~2.50	0.3C
Standby	25℃(77℉)	2.275	2.25~2.30	

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.65	1.60
Discharge Current(A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C

Effect of temperature on capacity (20HR)

Temperature	Dependency of Capacity (20HR)
40 ℃	102%
25 ℃	100%
0 ℃	85%
-15 ℃	65%

Self-discharge Characteristics

Storage time	Preservation rate
3 Months	91%
6 Months	82%
12 Months	64%